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			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/550,289	Applicant(s) FUJIKI, TOSHIHIRO	
	Examiner LaTanya Bibbins	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 28-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of the invention of Group I, claims 1-27, in the reply filed on September 8, 2008 is acknowledged.
2. Claims 28-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 8, 2008.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Oath/Declaration

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: both the "Yes" and "No" boxes claiming Foreign Priority to Japanese Application 2004-021658 have been checked.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the linear feedback shift register of claim 6 and the recorded traces of said pits or said marks which are changed by changing a length of said pits or said marks of claims 12 and 17 must be shown or the feature canceled from the claim. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities:
- a. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
 - b. The abstract of the disclosure is objected to because of its undue length. Applicant is reminded of the proper format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet **within the range of 50 to 150 words**. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required. See MPEP § 608.01(b).
 - c. Page 11 line 22 recites "a modulated signal **3**." Replacing "a modulated signal **3**" with "a modulated signal **S3**" is suggested.
 - d. Page 15 lines 17 and 21 and Page 16 lines 4 and 7 recite "the exclusive-OR circuit **24**." Replacing "the exclusive-OR circuit **24**" with "the exclusive-OR circuit **25**" is suggested.
- Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 1, 3, and 7-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3, and 7-13 are drawn to an optical disc recording apparatus but fail to recite structural features of the recording apparatus. The recited limitations do not result in any change in the physical structure of the recording apparatus but rather recite the intended use of the recording apparatus. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)). See also MPEP 2114.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 3, 5, 12, 13, 17, 18, and 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 12 and 17, the recited limitation “wherein said recorded traces of said pits or said marks are changed by changing a length of said pits or said marks” is not described in the specification as to what is performed therein. Hence, one of ordinary skill in the art is not enabled to make and use the claimed invention without undue experimentation.

Regarding claims 13, 18, and 27, “locally changing the reflectance of an information recording surface of said optical disc depending on the modulated sequence of data” is not described in the specification as to what is performed therein. Hence, one of ordinary skill in the art is not enabled to make and use the claimed invention without undue experimentation.

Regarding claims 3 and 5, the specification fails to disclose that the periodic signal or the periodic signal generating unit comprises “a signal inverted at a period which is at least twice said basic period” or “a unit for combining a plurality of signals inverted at a period which is at least twice said basic period to generate said periodic signal.” Therefore, the claimed limitations are not supported by the disclosure.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 3, and 7-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969..

Claims 1, 3, and 7-13 are drawn to an optical disc recording apparatus but fail to recite structural features of the recording apparatus. The recited limitations do not result in any change in the physical structure of the recording apparatus but rather recite the intended use of the recording apparatus. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)). See also MPEP 2114.

Regarding claim 1, Kobayashi '969 discloses an optical disc recording apparatus for generating a modulation signal having a signal level switched at a period which is an integral multiple of a basic period in accordance with main information and controlling an optical beam applied to an optical disc based on said modulation signal to successively form, on said optical disc, pits and lands or marks and spaces having lengths which are represented by integral multiples of a basic length corresponding to said basic period, wherein a sequence of data based on auxiliary information is modulated by a signal represented by a combination of a sequence of pseudo-random numbers and a predetermined periodic signal, and recorded traces of said pits or said marks are changed depending on the modulated sequence of data, thereby recording

said auxiliary information on said optical disc (see Figure 1, Figure 3, Figures 4A-4I, Figure 6B, Figures 10A-10D, and the abstract).

Regarding claim 3, Kobayashi '969 discloses the optical disc recording apparatus according to claim 1, wherein said periodic signal comprises a signal inverted at a period which is at least twice said basic period (see Figure 1, Figure 3, Figures 4A-4I, Figure 6B, Figures 10A-10D, and the abstract).

Regarding claim 7, Kobayashi '969 discloses the optical disc recording apparatus according to claim 1, wherein said recorded traces of said pits or said marks are changed at a position corresponding to a period extending substantially equally over a time corresponding to the center of said pits or said marks (see Figure 1, Figure 3, Figures 4A-4I, element a of Figure 6B, Figures 10A-10D, and the abstract).

Regarding claim 8, Kobayashi '969 discloses the optical disc recording apparatus according to claim 1, wherein said sequence of data based on said auxiliary information comprises a sequence of identification data for identifying said optical disc (see Figure 1, Figure 3, Figures 4A-4I, Figure 6B, Figures 10A-10D, the abstract and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1).

Regarding claim 9, Kobayashi '969 discloses the optical disc recording apparatus according to claim 1, wherein said main information is encrypted and recorded on said optical disc, and said sequence of data based on said auxiliary information comprises a sequence of data required to decrypt the encrypted main information (see Figure 1, Figure 3, Figures 4A-4I, Figure 6B, Figures 10A-10D, the

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abstract and the discussion in column 4 lines 8-45 regarding the disk identifying code SC1 and the discussion in column 13 lines 30-41).

Regarding claim 10, Kobayashi '969 discloses the optical disc recording apparatus according to claim 1, wherein said recorded traces of said pits or said marks which have lengths equal to or greater than a predetermined length are changed by changing a width of said pits or said marks at a time which is spaced a predetermined interval from a time corresponding to an edge of said pits or said marks (see Figure 1, Figure 3, Figures 4A-4I, Figure 6B, Figures 10C and 10D, the abstract and the discussion in column 13 lines 7-15).

Regarding claim 11, Kobayashi '969 discloses the optical disc recording apparatus according to claim 1, wherein said recorded traces of said pits or said marks are changed by displacing a position where said optical beam is applied to said optical disc in a radial direction of said optical disc, depending on the sequence of data based on said auxiliary information which is modulated by the signal represented by the combination of the sequence of pseudo-random numbers and the predetermined periodic signal (see Figure 1, Figure 3, Figures 4A-4I, Figure 6B, Figures 10A-10D, the abstract and the abstract).

Regarding claim 12, Kobayashi '969 discloses the optical disc recording apparatus according to claim 1, wherein said recorded traces of said pits or said marks are changed by changing a length of said pits or said marks, depending on the sequence of data based on said auxiliary information which is modulated by the signal represented by the combination of the sequence of pseudo-random numbers and the

predetermined periodic signal (see Figure 1, Figure 3, Figures 4A-4I, Figure 6B, Figures 10A-10D, the abstract and the abstract).

Regarding claim 13, Kobayashi '969 discloses an optical disc recording apparatus for generating a modulation signal having a signal level switched at a period which is an integral multiple of a basic period in accordance with main information and controlling an optical beam applied to an optical disc based on said modulation signal to successively form, on said optical disc, pits and lands or marks and spaces having lengths which are represented by integral multiples of a basic length corresponding to said basic period, wherein a sequence of data based on auxiliary information is modulated by a signal represented by a combination of a sequence of pseudo-random numbers and a predetermined periodic signal, and the reflectance of an information recording surface of said optical disc is locally changed depending on the modulated sequence of data, thereby recording said auxiliary information on said optical disc (see Figure 1, Figure 3, Figures 4A-4I, Figure 6B, Figures 10A-10D, and the abstract).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. Claims 2, 4, 14, 15, and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969, in view of Miyamori et al. (US Patent Number 6,025,946).

Regarding claim 2, Kobayashi '969 discloses the optical disc recording apparatus according to claim 1, comprising: a first modulation signal generating unit for generating a first modulation signal having a signal level switched at a period which is an integral multiple of the basic period in accordance with said main information (element 11 of Figure 1); a second modulation signal generating unit for modulating said first modulation signal with a signal based on the sequence of data based on said auxiliary information (element 7 of Figure 1); a recording beam modulating unit for modulating said optical beam with a signal output from said second modulation signal generating unit (element 6 of Figure 1); and an optical system for applying said optical beam to said optical disc (elements 8 and 9 of Figure 1); said second modulation signal generating unit comprising: a pseudo-random number generating unit for generating a pseudo-random number (element 23 of Figure 3); an auxiliary information modulating unit for modulating the sequence of data based on said auxiliary information with a signal represented by a combination of the random number from said pseudo-random number generating unit (see Figures 1 and 3, the discussion in the abstract and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1); and a modulation signal processing unit for modulating said first modulation signal to slightly change the recorded traces of said pits or said marks, based on the modulated sequence of data from said auxiliary information modulating unit (Figure 3 element 25).

Kobayashi '969 fails to disclose while Miyamori discloses a periodic signal generating unit for generating said predetermined periodic signal (see Figure 11 element 33 and the discussion in column 16 lines 1 to 67).

Kobayashi '969 also fails to disclose that the sequence of data based on auxiliary information is also modulated with a predetermined periodic signal. Miyamori, however, discloses a modulation circuit (element 16 of Figure 5 and Figure 11) that modulates a sequence of data based on auxiliary information with a signal represented by a combination of a sequence of pseudo-random numbers and a predetermined periodic signal (see Figure 11 element 33 and the discussion in column 16 lines 1 to 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the modulating scheme disclosed by Miyamori with the method of Kobayashi '969. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to reduce the regularity of the data (as suggested by Miyamori in column 16 lines 53-59).

Regarding claim 4, the combination of Kobayashi and Miyamori disclose the optical disc recording apparatus according to claim 2. Miyamori further discloses wherein said periodic signal generating unit comprises a counter (element 33 of Figure 11).

Regarding claim 14, Kobayashi '969 discloses a method of recording information on an optical disc by successively forming, on said optical disc, pits and

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lands or marks and spaces having lengths which are represented by integral multiples of a predetermined basic length to record main information on said optical disc, comprising the steps of: modulating a sequence of data based on auxiliary information with a signal represented by a combination of a sequence of pseudo-random numbers (see Figures 1 and 3, the discussion in the abstract and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1); and changing recorded traces of said pits or said marks depending on the modulated sequence of data, thereby recording said auxiliary information on said optical disc (see Figure 6B, Figures 10A-10D, the abstract, and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1).

Kobayashi '969 fails to disclose that the sequence of data based on auxiliary information is also modulated with a predetermined periodic signal. Miyamori, however, discloses a modulation circuit (element 16 of Figure 5 and Figure 11) that modulates a sequence of data based on auxiliary information with a signal represented by a combination of a sequence of pseudo-random numbers and a predetermined periodic signal (see Figure 11 element 33 and the discussion in column 16 lines 1 to 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the modulating scheme disclosed by Miyamori with the method of Kobayashi '969. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to reduce the regularity of the data (as suggested by Miyamori in column 16 lines 53-59).

Regarding claim 15, the combination of Kobayashi '969 and Miyamori disclose the method according to claim 14. Kobayashi '969 further discloses wherein said recorded traces of said pits or said marks which have lengths equal to or greater than a predetermined length are changed by changing a width of said pits or said marks at a time which is spaced a predetermined interval from a time corresponding to an edge of said pits or said marks (Figure 6B, Figures 10C and 10D, the abstract and the discussion in column 13 lines 7-15).

Claims 19 and 20 are drawn to the optical disc corresponding to the method of using same as claimed in claims 14 and 15 respectively. Therefore optical disc claims 19 and 20 correspond to method claims 14 and 15, and are rejected for the same reasons of obviousness as used above.

Regarding claim 21, the combination of Kobayashi '969 and Miyamori disclose the optical disc according to claim 20. Kobayashi '969 further discloses wherein said recorded traces of said pits or said marks are changed at a position corresponding to a period extending substantially equally over a time corresponding to the center of said pits or said marks (see Figure 6B, and Figures 10A-10D).

Regarding claim 22, the combination of Kobayashi '969 and Miyamori disclose the optical disc according to claim 20. Kobayashi '969 further discloses wherein the width of said pits or said marks is changed depending on the modulated sequence of data by at most 10% of an average width of said pits or said marks (column 5 lines 62-64 and column 10 lines 24-40).

Regarding claim 23, the combination of Kobayashi '969 and Miyamori disclose the optical disc according to claim 19. Kobayashi '969 further discloses wherein the sequence of data based on said auxiliary information comprises a sequence of identification data for identifying said optical disc (see the abstract and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1).

Regarding claim 24, the combination of Kobayashi '969 and Miyamori disclose the optical disc according to claim 19. Kobayashi '969 further discloses wherein said main information is encrypted and recorded on said optical disc, and said sequence of data based on said auxiliary information comprises a sequence of data required to decrypt the encrypted main information (see the abstract and the discussion in column 4 lines 8-45 regarding the disk identifying code SC1 and the discussion in column 13 lines 30-41).

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969, and Miyamori et al. (US Patent Number 6,025,946), as applied to claim 2 above, and further in view of Walsh (US Patent Number 6,480,072).

Regarding claim 6, the combination of Kobayashi '969 and Miyamori disclose the optical disc recording apparatus according to claim 2 but fail to disclose, while Walsh discloses, wherein said pseudo-random number generating unit comprises a linear feedback shift register (element 109 of Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the linear feedback shift register of Walsh into the optical disc recording apparatus of Kobayashi '969 and Miyamori. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to assist in achieving unpredictability of the random numbers (as suggested by Walsh in column 4 lines 18-22).

16. Claims 16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969, and Miyamori et al. (US Patent Number 6,025,946), as applied to claim 14 above, and further in view of Richter et al. (US PGPub Number 2006/0072396 A1).

Regarding claim 16, the combination of Kobayashi '969 and Miyamori disclose the method according to claim 14 but fail to disclose wherein said recorded traces of said pits or said marks are changed by displacing a position where said optical beam is applied to said optical disc in a radial direction of said optical disc. Richter, however, discloses wherein said recorded traces of said pits or said marks are changed by displacing a position where said optical beam is applied to said optical disc in a radial direction of said optical disc, depending on the sequence of data based on said auxiliary information which is modulated by the signal represented by the combination of the sequence of pseudo-random numbers and the predetermined periodic signal (see Figures 1 and 2 and the discussion in paragraphs [0003]-[0007]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Richter with that of Kobayashi '969 and Miyamori. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to provide "a copy protection mechanism, since it will be difficult to copy the pits to another recording medium" (as suggested by Richter in paragraph [0005]).

Claim and 25 is drawn to the optical disc corresponding to the method of using same as claimed in claim 16. Therefore optical disc claim 25 corresponds to method claim 16, and is rejected for the same reasons of obviousness as used above.

17. Claims 17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969, and Miyamori et al. (US Patent Number 6,025,946), as applied to claim 14 above, and further in view of Kobayashi (US Patent 6,219,322 B1) herein Kobayashi '322.

Regarding claim 17, the combination of Kobayashi '969 and Miyamori disclose the method according to claim 14 but fail to disclose wherein said recorded traces of said pits or said marks are changed by changing a length of said pits or said marks. Kobayashi '322, however, discloses wherein said recorded traces of said pits or said marks are changed by changing a length of said pits or said marks, depending on the sequence of data based on said auxiliary information which is modulated by the signal represented by the combination of the sequence of pseudo-random numbers and the predetermined periodic signal (column 12 lines 9-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kobayashi '969 and Miyamori with that of Kobayashi '322. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to "make it difficult to accurately copy the position of the front edge or the rear edge of the pit or mark" thus making it "possible to prevent an illegal copy which accurately agrees with the genuine optical information recording medium from being produced" (as stated by Kobayashi '322 in column 12 lines 22, 23, and 34-37).

Claim and 26 is drawn to the optical disc corresponding to the method of using same as claimed in claim 17. Therefore optical disc claim 26 corresponds to method claim 17, and is rejected for the same reasons of obviousness as used above.

18. Claims 18 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969, in view of Miyamori et al. (US Patent Number 6,025,946) and further in view of Kobayashi (Japanese Patent Number 11-191218)) herein Kobayashi '218.

Regarding claim 18, Kobayashi '969 discloses a method of recording information on an optical disc by generating a modulation signal having a signal level switched at a period which is an integral multiple of a basic period in accordance with main information and controlling an optical beam applied to an optical disc based on said modulation signal to successively form, on said optical disc, pits and lands or marks and spaces having lengths which are represented by integral multiples of a basic

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length corresponding to said basic period, said method comprising the steps of:
modulating a sequence of data based on auxiliary information with a signal represented by a combination of a sequence of pseudo-random numbers (see Figures 1 and 3, the discussion in the abstract and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1).

Kobayashi '969 fails to disclose that the sequence of data based on auxiliary information is also modulated with a predetermined periodic signal. Miyamori, however, discloses a modulation circuit (element 16 of Figure 5 and Figure 11) that modulates a sequence of data based on auxiliary information with a signal represented by a combination of a sequence of pseudo-random numbers and a predetermined periodic signal (see Figure 11 element 33 and the discussion in column 16 lines 1 to 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the modulating scheme disclosed by Miyamori with the method of Kobayashi '969. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to reduce the regularity of the data (as suggested by Miyamori in column 16 lines 53-59).

The combination of Kobayashi '969 and Miyamori fail to disclose, while Kobayashi '218 discloses locally changing the reflectance of an information recording surface of said optical disc depending on the modulated sequence of data, thereby recording said auxiliary information on said optical disc (see the abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Kobayashi '218 into that of Kobayashi '969 and Miyamori. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to make it difficult to illegally reproduce data without exerting any influence thereon as suggested in the abstract of Kobayashi '218.

Claim and 27 is drawn to the optical disc corresponding to the method of using same as claimed in claim 18. Therefore optical disc claim 27 corresponds to method claim 18, and is rejected for the same reasons of obviousness as used above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571)270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaTanya Bibbins/
Examiner, Art Unit 2627

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627